UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,080	02/11/2004	Daisuke Sakiyama	018656-682	3417

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BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER
LEE, CHUN KUAN

ART UNIT	PAPER NUMBER
2181	

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *12 July 2006*.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-16* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-16* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *11 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

FRITZ FLEMING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection. Claim objection of claim 5 is withdrawn and claim rejections of claims 1-13 under 35 U.S.C. 112 second paragraph are withdrawn. Currently claims 1-16 are pending for examination.

2.   In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Further more, the teaching of Utsunomiya and Terajima are analogues because Utsunomiya's teaching is related to a printer and Terajima's teaching is related to a facsimile apparatus with printing function implemented through a record unit (Terajima, Fig. 1, ref. 102) consisting of a thermal printer or a ink-jet printer (Terajima, col. 2, ll. 45-51), wherein both teach an external memory (Utsunomiya, Fig. 2, ref. 1043 and Terajima, Fig. 1, ref. 109), but Terajima further teaches a sensor (Terajima, Fig. 1, ref. 119) to detect if the external memory is connected or not and a controller (Terajima, Fig.

1, ref. 101) selecting where to store data base on the detection result of the sensor

(Terajima, col. 3, l. 11 to col. 4, l. 64), wherein the implementation including the sensor

and the controller would increasing the data transferring integrity by ensuring that the

external memory is properly connected before data transferring, therefore preventing

the lost of communication result (Terajima, col. 5, ll. 3-9).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3.   Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claim 1 recites the limitation "said job data" in line 4. There is insufficient

antecedent basis for this limitation in the claim.

As per claim 1, it appears unclear which "said job data" the applicant is referring

to as there appears to have no prior recitation of "a job data". Examiner will assume

"said job image data" for the current examination.

As per claims 2-7, claims 2-7 are rejected at least due to direct or indirect

dependency on the rejected independent claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Utsunomiya (US Patent 6,999,186) in view of Terajima (US Patent 5,309,251).

5.   As per claims 1 and 8, Utsunomiya teaches a data outputting printer, comprising:

a receiving unit (input/output module 3000 of Fig. 3) that receives print jobs;

a processing memory (Fig. 3, ref. 3008, 3009) that processes (i.e. processes by

converting job image data to raster images) job image data for print jobs received by

said receiving unit (Fig. 3 and col. 5, ll. 40-67);

an output unit (printer 1030 of Fig. 3) that, after processing of the job image data

sent to said processing memory, outputs said job image data during a first output

session (col. 8, ll. 28-40), wherein the first output session is resulted from either the

implementing the multiple-copy print or the single-copy print as the first copy is printed

on the printer;

a mounting unit for mounting an expansion memory (external memory 1043 of

Fig. 2) used for data storage (HD 1043 of Fig. 3), wherein the hard drive is mounted as

external memory for storing print data (col. 5, ll. 5-16); and

a controller (printer controller 1031 and memory controller 1044 of Fig. 2) that, when said job image data is to be output multiple times (e.g. multiple-copy print) (col. 5, ll. 5-32; col. 6, ll. 20-44 and col. 8, ll. 28-40),

(i) stores the job image data in a storage destination memory (e.g. either the internal memory RAM 1037 or the external hard disk 1043 of Fig. 2-3) for a second output session and beyond (col. 5, l. 40 to col. 6, l. 44), wherein the job image data is stored in either the internal memory RAM or the external hard disk for printing the first copy, the second copy and beyond, and

(ii) reads out said job image data from the storage destination memory and performs output for the second output session onward using the output unit (col. 5, l. 40 to col. 6, l. 44), as the stored job image data is read out from the corresponding storage destination memory and printed by the printer.

Utsunomiya does not teach the data outputting printer, comprising:

a detection unit that detects whether or not an expansion memory has been mounted to said mounting unit; and

the controller that, when said job image data is to be output multiple times,

(i) selects, based on the results of the detection by said detection unit, a storage destination memory for storing the job image data for a second output session and beyond and stores the data therein, and

(ii) reads out said job image data from the selected storage destination memory and performs output for the second output session onward using the output unit.

Terajima teaches a facsimile apparatus with a printing function comprising:

a sensor (Fig. 1, ref. 119) utilized for detecting whether or not a external memory

(Fig. 1, ref. 109) is coupled to the control unit (Fig. 1 and col. 3, l. 11 to col. 4, l. 14);

and

a controller (Fig. 1, ref. 101) that selects the storing of the received

communication data in an internal RAM processing memory (Fig. 1, ref. 115) if the

sensor does not detect the presence of the external memory (col. 4, ll. 14-20) and if the

external memory is detected to be present, the received communication data is to be

stored in the external memory (col. 3, l. 62 to col. 4, l. 4), and prints the received

communication data from either the internal RAM processing memory or the external

memory, depending on where it was stored (col. 4, ll. 47-64).

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Terajima's sensor into Utsunomiya's data outputting

printer. The resulting combination of the references further teaches data outputting

printer comprising:

the sensor (i.e. detection unit) utilized for detecting whether or not the external

memory (i.e. expansion memory) has been mounted to the mounting unit; and

the controller storing the job image data for printing of the second copy and

beyond in the external memory if the sensor detects the presence of the external

memory and in the internal RAM if the sensor does not detect the presence of the

external memory, and printing the stored job image data by reading from either the

external memory or internal RAM, depending on where the job image data was stored.

Therefore, it would have been obvious to combine <u>Terajima</u> with <u>Utsunomiya</u> for the benefit of ensuring that the external memory is properly connected before data transferring increasing the data transferring integrity (<u>Terajima</u>, col. 5, ll. 3-9), and further more, also provide the benefit of reducing the cost of the printer as memory is saved (<u>Terajima</u>, col. 1, l. 52 to col. 2, l. 5).

6.   As per claim 2, <u>Utsunomiya</u> and <u>Terajima</u> teach all the limitations of claim 1 as discussed above, where <u>Terajima</u> further teaches the data outputting printer comprising wherein when said detection unit detects that the expansion memory is mounted, said controller stores the job image data used for said second output session onward in said expansion memory (i.e. external memory), and when said detection unit detects that the expansion memory is not mounted, said controller stores the data used for said second output session onward in said processing memory (i.e. internal RAM) (<u>Terajima</u>, Fig. 3 and col. 3, l. 11 to col. 4, l. 14), wherein the job image data is stored into the external memory only if the sensor detects the presence of the external memory, if the external memory is not present, the job image data is stored in the internal RAM.

7.   As per claim 3, <u>Utsunomiya</u> and <u>Terajima</u> teach all the limitations of claim 2 as discussed above, where both further teach the data outputting printer comprising wherein if it is detected by said detection unit that the expansion memory is mounted, said controller outputs the job image data processed in said processing memory as is for the first output session (<u>Utsunomiya</u>, Fig. 2-3 and <u>Terajima</u>, col. 3, l. 11 to col. 4, l.

14), wherein the communication result is first stored in the RAM (processing memory) then later transferred to the external memory and prior to printing, if the external memory is removed, the data is printed from the RAM.

8.   As per claim 4, <u>Utsunomiya</u> and <u>Terajima</u> teach all the limitations of claim 1 as discussed above, where <u>Terajima</u> further teaches the data outputting printer comprising wherein said controller determines the storage format for the job image data used for the second output session onward in accordance with the results of the detection by said detection unit (<u>Terajima</u>, Fig. 6 and col. 5, ll. 29-50), wherein if data is stored on the external memory, the data would require proper formatting by the serial interface circuit for performing serial communication for data between the control unit and the external memory.

9.   As per claim 5, <u>Utsunomiya</u> and <u>Terajima</u> teach all the limitations of claim 4 as discussed above, where <u>Terajima</u> further teaches the data outputting printer comprising wherein the job is a print job sent from an external device, and when the mounting of an expansion memory is detected by said detection unit, said controller stores the input data in said expansion memory as image data resulting from processing in said processing memory, and when the mounting of an expansion memory is not detected by the detection unit, said controller stores the input job image data in said processing memory in an original format existing prior to its processing in said processing memory (<u>Terajima</u>, Fig. 6; col. 3, l. 11 to col. 4, l. 14 and col. 5, ll. 29-50), wherein if the external

memory is detected, the data is stored in the external memory after being properly

processed by being formatted for serial communication and if the external memory is

not detected, data is stored in the RAM without implementing the serial formatting.

10.   As per claim 6, Utsunomiya and Terajima teach all the limitations of claim 1 as

discussed above, where Utsunomiya further teaches the data outputting printer

comprising at least one compression/decompression unit (i.e. compression/expand unit)

that compresses data and decompresses compressed data (Utsunomiya, col. 2, ll. 8-67

and col. 7, ll. 22-32).

11.   As per claim 7, Utsunomiya and Terajima teach all the limitations of claim 6 as

discussed above, where Utsunomiya further teaches the data outputting printer

comprising wherein said expansion memory stores data compressed by said at least

one compression/decompression unit (Utsunomiya, col. 2, ll. 8-67 and col. 7, ll. 22-32),

wherein data are compressed before being stored.

12.   As per claim 9, Utsunomiya and Terajima teach all the limitations of claim 8 as

discussed above, where both further teach the data outputting printer comprising

wherein when said detection unit detects that the expansion memory is mounted, said

controller stores the image data used for printing of a second copy onward in said

expansion memory, and when said detection unit detects that an expansion memory is

mounted, said controller stores the image data used for printing of the second copy

onward in said processing memory (Utsunomiya, Fig. 2-3 and Terajima, Fig. 3 and col. 3, l. 11 to col. 4, l. 14).

13.   As per claim 10, Utsunomiya and Terajima teach all the limitations of claim 9 as discussed above, where both further teach the data outputting printer comprising wherein if it is detected by said detection unit that the expansion memory is mounted, said controller prints out the first copy using the image data processed in said processing memory (Utsunomiya, Fig. 2-3 and Terajima, col. 3, l. 11 to col. 4, l. 14).

14.   As per claim 11, Utsunomiya and Terajima teach all the limitations of claim 8 as discussed above, where Terajima further teach the data outputting printer comprising wherein said controller determines a storage format for image data used for the second copy onward in accordance with the results of the detection by said detection unit (Terajima, Fig. 6 and col. 5, ll. 29-50), wherein if data is stored on the external memory, the data would require proper formatting by the serial interface circuit for performing serial communication for data between the control unit and the external memory.

15.   Claims 12-13 repeat the limitations of claims 6-7 and are therefore rejected accordingly.

16.   Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Utsunomiya (US Patent 6,999,186) in view of Kisaki (US Pub.: 2003/0035142), and

further in view of Terajima (US Patent 5,309,251).

17.   As per claims 14, Utsunomiya teaches a printer, comprising:

    a receiving unit (input/output module 3000 of Fig. 3) that receives print jobs;

    a work memory (RAM 1037 of Fig. 3) that includes a storage area (Fig. 3, ref.

1032, 3007) used for storing image data, as well as a processing area (Fig. 3, ref. 3008,

3009) used for processing (process by converting) image data to raster images for

received print jobs (Fig. 3 and col. 5, ll. 40-67);

    a printer unit (printer 1030 of Fig. 3) that prints image data after it has been

processed in said processing area during (col. 5, l. 40 to col. 6, l. 44);

    a mounting unit used for mounting an expansion memory (external memory 1043

of Fig. 2) used for data storage (HD 1043 of Fig. 3), wherein the hard drive is mounted

as external memory for storing print data (col. 5, ll. 5-16);

    a controller (printer controller 1031 and memory controller 1044 of Fig. 2) that,

where the print job is a job in which multiple copies of identical images are to be printed

(e.g. multiple-copy print) (col. 5, ll. 17-32; col. 6, ll. 20-44 and col. 8, ll. 28-40), printing

out a fist copy, a second copy and onward of the image data processed in said work

memory or from an expansion memory.

    Utsunomiya does not teach the printer, comprising:

a detection unit that detects whether an expansion memory has been mounted to said mounting unit; and

the controller that,

(i) and when said detection unit detects that an expansion memory is mounted, prints out a first copy of the image data processed in said work memory and stores the image data stored in said work memory in said expansion memory and executes printing for a second copy onward via the printer unit using the image data stored in said expansion memory, and

(ii) when said detection unit detects that an expansion memory is not mounted, executes printing for the second copy onward via the printer unit using the image data stored in said work memory.

Kizaki teaches an image forming apparatus such as a digital copier, a facsimile machine, a printer, and a scanner ([0002]) comprising a data input/output control unit (Fig. 6, ref. 600) implementing multiple copies as a first copy is stored in and output from a primary memory device (semiconductor memory) (Fig. 6, ref. 606) and a second and following copies are stored in and output from the secondary memory device (hard disk drive: HDD) (Fig. 6, ref. 607) ([0117]-[0118]);

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Kizaki's printing of the first copy from the primary memory device and the second and following copy from the secondary memory device into Utsunomiya's printer. The resulting combination of the references further teaches the printer comprising the controller that

prints out the first copy from the primary memory device (i.e. semiconductor

memory such as the work memory) as the image data is stored in the primary memory

device; and

prints out the second and following copies from the secondary memory device

(i.e. external memory such as the HDD) as the image data is to be stored in the

secondary memory device for the second and following copies.

Therefore, it would have been obvious to combine Kizaki with Utsunomiya for the

benefit of providing efficient transfer of image data concerning the primary memory

device while using the second memory device having a larger volume as image memory

(Kizaki, [0014]).

Terajima teaches a facsimile apparatus with a printing function comprising:

a sensor (Fig. 1, ref. 119) utilized for detecting whether or not a external memory

(Fig. 1, ref. 109) is coupled to the control unit (Fig. 1 and col. 3, l. 11 to col. 4, l. 14);

and

a controller (Fig. 1, ref. 101) that selects the storing of the received

communication data in an internal RAM processing memory (Fig. 1, ref. 115) if the

sensor does not detect the presence of the external memory (col. 4, ll. 14-20) and if the

external memory is detected to be present, the received communication data is to be

stored in the external memory (col. 3, l. 62 to col. 4, l. 4), and prints the received

communication data from either the internal RAM processing memory or the external

memory, depending where it was stored earlier (col. 4, ll. 47-64).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Terajima's sensor into Utsunomiya and Kizaki's printer. The resulting combination of the references further teaches the printer comprising:

the sensor (i.e. detection unit) utilized for detecting whether or not the external memory (i.e. expansion memory) has been mounted to said mounting unit;

the controller that,

when the sensor detect that the external memory is mounted, prints out the first copy from the primary memory device (i.e. semiconductor memory such as the work memory and the internal RAM) as the image data is stored in the primary memory device, and

stores the image data in the primary memory device into the secondary memory device for implement the print out of the second and following copies from the secondary memory device (i.e. external memory such as the external HDD).; and

when the sensor detects that the external memory is not mounted, prints out the second and following copies utilizing the image data stored in the primary memory.

Therefore, it would have been obvious to combine Terajima with Utsunomiya and Kizaki for the benefit of ensuring that the external memory is properly connected before data transferring increasing the data transferring integrity (Terajima, col. 5, ll. 3-9), and further more, also provide the benefit of reducing the cost of the printer as memory is saved (Terajima, col. 1, l. 52 to col. 2, l. 5).

18.   As per claim 15, <u>Utsunomiya</u>, <u>Kizaki</u> and <u>Terajima</u> teach all the limitations of

claim 14 as discussed above, where <u>Utsunomiya</u> further teach the data outputting

printer comprising at least one compression/decompression unit that compress image

data input from said processing area, decompress compressed image data and output

decompressed image data to said processing area (<u>Utsunomiya</u>, col. 2, II. 8-67 and col.

7, II. 22-32), since data are compressed before being stored, said data must also be

decompressed before being printed.

19.   As per claim 16, <u>Utsunomiya</u>, <u>Kizaki</u> and <u>Terajima</u> teach all the limitations of

claim 15 as discussed above, where <u>Utsunomiya</u> further teach the data outputting

printer comprising wherein said expansion memory stores image data compressed by

said at least one compression/decompression unit (<u>Utsunomiya</u>, col. 2, II. 8-67 and col.

7, II. 22-32), wherein data are compressed before being stored.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

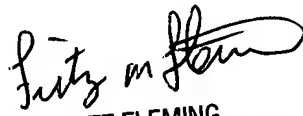than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is

(571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Fritz M. Fleming can be reached on (571) 272-4145. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.K.L.
09/06/2003

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